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     (FILE 'HOME' ENTERED AT 16:13:04 ON 29 NOV 2002)

     FILE 'CAPLUS, INSPEC' ENTERED AT 16:13:19 ON 29 NOV 2002
L1             0 S KOZENKOV
L2             0 S KOZENKOV/AU,IN
L3             0 S KOZENKOV/AU
L4             0 S KOZENKOV?
L5            34 S POLARIZER(5A)(PHOTOPATTERN? OR PHOTO)
L6           454 S MATSUMOTO
L7             0 S L6 AND L5
L8             6 S MATSUMOTO/AU
L9             0 S L5 AND L8
L10        58069 S MATSUMOTO?/AU
L11          459 S MATSUMOTO?
L12          113 S KOZENKOV?/AU
L13           23 S L12 AND (POLARIZ? OR DICHROIC)
L14           23 S L12 AND (POLARIZ? OR DICHROIC OR DICHOISM OR PHOTODICHRO?)

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                   183.51     183.72

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -23.54     -23.54

STN INTERNATIONAL LOGOFF AT 16:24:54 ON 29 NOV 2002


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L13 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 2002:405798 CAPLUS
DN 136:409123
TI Method of manufacturing photoalignment layer for liquid crystal display
IN Yip, Wing C.; Takada, Hirokazu; Fukuda, Masanobu; Chigrinov, Vladimir G.; **Kozenkov, Vladimir M.**; Prudnikova, Elena K.; Kwok, Hoi S.
PA The Hong Kong University of Science & Technology, Hong Kong; Dainippon Ink and Chemicals, Inc.
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G02F001-1337
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1209515	A1	20020529	EP 2001-127357	20011121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002098295	A1	20020725	US 2001-988204	20011119
JP 2002250924	A2	20020906	JP 2001-353466	20011119
CN 1356585	A	20020703	CN 2001-140064	20011123
PRAI JP 2000-357309	A	20001124		

OS MARPAT 136:409123
AB A photoalignment layer is manufd. by coating a material for the photoalignment layer, which contains a **dichroic** dye having two or more polymerizable groups per mol., on a substrate, and exposing the coating layer to **polarized** light, thereby imparting a photoalignment function, and polymg. the polymerizable groups by heating or light exposure. According to the method of the present invention, it is made possible to provide a photoalignment layer which has excellent photochem. long-term stability to light and heat.
ST photoalignment layer light heat stability liq crystal display; anthraquinone azo dye deriv polymerizable photoalignment layer
IT Liquid crystal displays
(method of manufg. photoalignment layer for liq. crystal display)
IT Polymerization
(photopolymn.; method of manufg. photoalignment layer for liq. crystal display using)
IT Polymerization
(thermal; method of manufg. photoalignment layer for liq. crystal display using)
IT 40817-08-1, 5CB
RL: DEV (Device component use); USES (Uses)
(5CB; method of manufg. photoalignment layer for liq. crystal display)
IT 99-06-9, 3-Hydroxybenzoic acid, reactions 128-94-9, 1,8-Dihydroxy-4,5-diaminoanthraquinone 444-30-4, o-Trifluoromethylphenol 920-46-7, Methacrylic acid chloride 3365-90-0, Benzidine-3,3'-disulfonic acid 90575-17-0, 9,10-Anthracenedione, 4,5-diamino-1-hydroxy 120703-93-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(in synthesis of photoalignment material)
IT 431042-22-7P 431042-23-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in synthesis of photoalignment material)
IT 431042-25-0P 431042-27-2P 431042-29-4P 431042-31-8P 431042-33-0P 431042-35-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(photoalignment material; method of manufg. photoalignment layer for liq. crystal display)
IT 431042-24-9P 431042-26-1P 431042-28-3P 431042-30-7P 431042-32-9P 431042-34-1P
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(photoalignment materia[redacted]method of manufg. photoalignme[redacted]layer for liq. crystal display)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Dong-Yu, K; US 6153272 A 2000 CAPLUS
(2) Schadt, M; WO 0046635 A 2000 CAPLUS
(3) Shao-Tang, S; US 4974941 A 1990 CAPLUS

L13 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 2002:49664 CAPLUS
DN 136:332713
TI New photoaligning and photopatterning technology: superthin internal **polarizers**, retarders, and aligning layers
AU Chigrinov, Vladimir G.; Kwok, Hoi-Sing; Yip, Wing Chiu; **Kozenkov, Vladimir M.**; Prudnikova, Elena; Tang, Ben Zhong; Salhi, Fouad
CS Hong Kong University of Science and Technology, Kowloon, Hong Kong
SO Proceedings of SPIE-The International Society for Optical Engineering (2001), 4463(Liquid Crystals V), 117-131
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
AB The photoaligning materials based on azodye layers are proposed. The azodye aligning layers enable (1) high order parameter; (2) excellent alignment quality of LCD with a high contrast ratio; (3) temp. stability, suitable for LCD manufg.; (4) perfect adhesion and high voltage holding ratio due to the specific mol. groups (5) pretilt angle generation. The azodye layers can be used to fabricate thin internal patterned (pixelated) **polarizers** with different local orientations of the absorption axis and/or absorption colors. The new methods allow to produce defect-free highly uniform alignment of lyotropic LC or iodine-doped azodye layers themselves with a fine resoln. of the **polarization** pattern. The photoaligned internal **polarizers** are cost-effective and enable new LCDs with excellent electrooptical response, including good viewing angles and high brightness. An internal phase retarder using UV-cured photopolymd. material has been prepd. 4-(6-Acryloyloxyhexyloxy) benzoic acid had been synthesized and the synthesis procedure was modified for a better yield. It is shown that by applying an elec. or magnetic field, the director deformation of the liq. cryst. monomer could be in-situ UV-cured for the optimal phase compensation generation.
ST photopatterning photoaligning liq crystal internal **polarizer** azodye phase retarder
IT Liquid crystal displays
Liquid crystals
Optical transmission
Polarizers
(new photoaligning and photopatterning technol. in relation to superthin internal **polarizers**, retarders and aligning layers)
IT Optical anisotropy
(photoinduced; new photoaligning and photopatterning technol. in relation to superthin internal **polarizers**, retarders and aligning layers)
IT 330163-73-0, PIA 3744 412267-06-2
RL: NUU (Other use, unclassified); USES (Uses)
(new photoaligning and photopatterning technol. in relation to superthin internal **polarizers**, retarders and aligning layers)
IT 398144-62-2
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(new photoaligning and photopatterning technol. in relation to superthin internal **polarizers**, retarders and aligning layers)
IT 125248-71-7P, C 6M
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(new photoaligning and photopatterning technol. in relation to superthin internal **polarizers**, retarders and aligning layers)
IT 101763-86-4

RL: PRP (Properties); TEM chnical or engineered materia[redacted]e); USES (Uses)
(new photoaligning and photopatterning technol. in relation to superthin internal **polarizers**, retarders and aligning layers)
IT 83883-26-5P, 4-(6-Acryloyloxyhexyloxy) benzoic acid
RL: SPN (Synthetic preparation); PREP (Preparation)
(new photoaligning and photopatterning technol. in relation to superthin internal **polarizers**, retarders and aligning layers)
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Anon; Optiva product specification 2001
(2) Aoki, K; Liquid Crystals 1995, V19, P119 CAPLUS
(3) Benoit, H; Ann De Phys 1951, V6, P561 CAPLUS
(4) Bobrov, Y; SID'00 Digest 2000, P1102
(5) Broer, D; Makromolek Chem 1989, V190, P2255 CAPLUS
(6) Broer, D; Makromolek Chem 1989, V190, P3201 CAPLUS
(7) Chen, J; Phys Rev E 1996, P1599 CAPLUS
(8) Chigrinov, V; Liquid Crystal Devices: Physics and Application 1999
(9) Chigrinov, V; Proc of SPIE 1998, V3318, P454 CAPLUS
(10) Dyadyusha, A; JETP Lett 1992, V56, P19
(11) Gibbon, W; Nature (London) 1991, V351, P49
(12) Gibbons, W; Proc SPIE 1999, V3635, P32 CAPLUS
(13) Hasegawa, M; Jpn J Appl Phys 1999, V38, PL457 CAPLUS
(14) Kawatsuki, N; Jpn J Appli Phys 1997, V36, P6464 CAPLUS
(15) Kozenkov, V; SID'00 Digest 2000, P1099
(16) Kumagai, K; Jpn J Appl Phys 1999, V38, P3615 CAPLUS
(17) Kvasnikov, E; Reports of USSR Academy of Sciences 1977, V237, P633 CAPLUS
(18) Nishikawa, M; Jpn J Appl Phys 1999, V38, P5183 CAPLUS
(19) O'Neill, M; J Phys D 2000, V33, PR67 CAPLUS
(20) Palto, S; J Phys II France 1995, V5, P1
(21) Schadt, M; Jap J Appl Phys 1992, V31, P2155 CAPLUS
(22) Shibaev, V; Polymers as Electrooptical and Photooptical Active Media 1996, P37 CAPLUS
(23) Stolbova, O; Reports of USSR Academy of Sciences 1963, V49, P84
(24) Tereshchenko, A; Opt Spec 1997, V83, P747
(25) Van de Witte, P; Jpn J Appl Phys 1999, V38, P748 CAPLUS
(26) Vorflusev, V; Appl Phys A 1997, V64, P615
(27) Vorflusev, V; Appl Phys Lett 1997, V70, P3359 CAPLUS
(28) Vorflusev, V; Mol Cryst Liq Cryst 1995, V263, P577
(29) Yakovlev, D; Proc of Eurodisplay'93 1993, P17
(30) Yip, W; Displays 2001, V22, P27
(31) Yip, W; SID'01 Digest 2001, P1070

L13 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1998:159433 CAPLUS
DN 128:210758
TI Physics and applications of LC photo-alignment: recent results

AU Chigrinov, V. G.; **Kozenkov, V. M.**
CS Shubnikov's Institute of Crystallography, Moscow, 117333, Russia

SO Proceedings of SPIE-The International Society for Optical Engineering (1998), 3318(Liquid Crystals: Physics, Technology and Applications), 454-464
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal; General Review
LA English

CC 74-0 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB The photo-aligning of Liq. Crystal (LC) layers by UV-illumination seems to provide a new advanced technol. for all types of LCDs, esp. AM-LCDs. Recently, certain new results were obtained based on the extension of photo-aligning materials to the common classes of polymer aligning agents such as polyimides, polysiloxanes, etc. Pretilt angles on the substrates were definitely obtained, which enable to fabricate STN and AM-LCDs with large surface areas. The progress in application of LC photo-aligning for LCDs stimulates a fundamental research in the field. The authors consider UV-illumination in photoanisotropic films, such as a photoorientation of the absorption oscillator of the mol. clusters perpendicular to the **polarization** vector of the UV-light and characterize this process

by the specific material c[redacted]ts. This characterization wil[redacted]urther enable one to define such important parameter as an anchoring energy of LC with the photoactivated substrate. The authors will also discuss such problems as a stability of photoaligned LC layers with respect to an external UV and IR light exposure, and will show that a certain progress in this direction was obtained. Finally the authors review some LCD display constructions, that can be efficiently obtained by the method of UV-illumination technique. A review, with 29 refs.
ST physics liq crystal display photoalignment review
IT Isomerization
(photoisomerization; recent results of physics and application of liq. crystal photo-alignment)
IT Liquid crystal displays
Liquid crystal displays
Liquid crystals
(recent results of physics and application of liq. crystal photo-alignment)
IT Polymers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(recent results of physics and application of liq. crystal photo-alignment)

L13 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1997:232687 CAPLUS
DN 126:337436
TI Bistable switching in FLC cells aligned by photoanisotropic films
AU Vorflusev, Valery; **Kozenkov, Vladimir**; Chigrinov, Vladimir
CS Organic Intermediates and Dyes Institute, Moscow, 103787, Russia
SO Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1995), 263(Proceedings of the 15th International Liquid Crystal Conference, 1994, Pt. 4), 2509-2515
CODEN: MCLCE9; ISSN: 1058-725X
PB Gordon & Breach
DT Journal
LA English
CC 76-8 (Electric Phenomena)
AB Long-term perfect bistable switching of 1.5 .mu.m thick Ferroelec. Liq. Crystal (FLC) cell oriented by photoanisotropic (PA) films was demonstrated even in case of a large spontaneous **polarization** Ps=100nC/cm2. The condition of a good SmC* orientation quality was shown to be the existence of a nematic phase N*. The bistable properties of PA-films aligned FLC cell, kept for a while in a short-circuiting state, are easily restored, which is not obsd. in FLC cells oriented by usual rubbing technique.
ST ferroelec liq crystal cell bistable switching; photoanisotropic film FLC cell bistable switching
IT Liquid crystals
(ferroelec.; bistable switching in FLC cells aligned by photoanisotropic films)
IT Ferroelectric materials
(liq.-crystal; bistable switching in FLC cells aligned by photoanisotropic films)
IT Films
(photoanisotropic; bistable switching in FLC cells aligned by photoanisotropic films)

L13 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1996:242171 CAPLUS
DN 124:274509
TI **Polarization**-sensitive photographic material containing polyvinyl ester of p-methoxycinnamic acid
IN **Kozenkov, V. M.**; Kisilitsa, P. P.; Ganushchak, N. I.; Katyshev, E. G.; Naumova, N. A.; Orlova, T. N.; Obushak, N. D.; Shulev, Yu. V.
PA Moskovskoe Nauchno-Proizvodstvennoe Ob'edinenie "Niopik", USSR
SO U.S.S.R.
From: Izobreteniya 1995, (33), 276.
CODEN: URXXAF
DT Patent
LA Russian

IC ICM G03C001-73
CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 1769607	A1	19951127	SU 1990-4854384	19900720

AB Title only translated.
ST photog material polyvinyl ester methoxycinnamic acid; **polarization** sensitive photog material
IT Ultraviolet radiation
(**polarization** of, photog. material contg. polyvinyl ester of p-methoxycinnamic acid and sensitive to)
IT Photoimaging compositions and processes
(**polarization**-sensitive photog. material contg. polyvinyl ester of p-methoxycinnamic acid)
IT 32732-28-8
RL: TEM (Technical or engineered material use); USES (Uses)
(**polarization**-sensitive photog. material contg. polyvinyl ester of p-methoxycinnamic acid)

L13 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1995:595108 CAPLUS
DN 123:241773
TI Photoanisotropic films: Physics and application in LCDs
AU Chigrinov, V.G.; **Kozenkov, V.M.**
CS Organic Intermediates & Dyes Institute, Moscow, 103787, Russia
SO Proceedings of SPIE-The International Society for Optical Engineering (1995), 2407, 185-96
CODEN: PSISDG; ISSN: 0277-786X
DT Journal
LA English
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
AB Pure dye layers, dyes embedded into polymer matrix and pure photopolymer films (e.g. PVC-polyvinyl 4-methoxycinnamate) form the so-called photoanisotropic films (PAFs), which undergo mol. and structural transformations under the action of the external **polarized** UV-illumination. The spectral sensitivity, spatial resoln., thermostability, and reversibility of such processes strongly depend on the chem. nature of PAFs. Various applications of PAFs in LCD technol. are envisaged such as the alignment of LC mols. without rubbing operation thus avoiding electrostatic charges and impurities, possibility to make delicate structure of the preferred azimuth of LC director on the substrate to improve LCD viewing angles, forming of phase retardation plates with local orientations of optical axes and optical path length varying from pixel to pixel, implementation of B/W and color supertwist high-information-content displays based on birefringent colors, and modification of the configuration of subtractive color supertwist cells for projection displays. The paper presents a brief introduction of phys. phenomena in PAFS and its application in LCDs.
ST photoanisotropic film liq crystal display
IT Optical imaging devices
(electrooptical liq.-crystal, photoanisotropic films for)
IT 9002-86-2, Poly(vinyl chloride) 32732-28-8, Poly(vinyl 4-methoxycinnamate)
RL: TEM (Technical or engineered material use); USES (Uses)
(liq.-crystal display photoanisotropic films contg.)

L13 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1993:682855 CAPLUS
DN 119:282855
TI Method for producing oriented molecular coatings
IN **Kozenkov, Vladimir M.**; Katyshev, Evgenij G.; Doroshenko, Valerij S.
PA Mo n-proizv ob "niopik", USSR
SO U.S.S.R.
From: Izobreteniya 1992, (44), 153.
CODEN: URXXAF

DT Patent
LA Russian
IC ICM G02B001-08
CC 75-1 (Crystallography and Liquid Crystals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	SU 1778731	A1	19921130	SU 1991-4908695	19910208

AB In producing oriented films by vacuum thermal atomization of the material and exposing the resulting layers to **polarized** or unpolarized illumination, the illumination and the thermal atomization proceed simultaneously to control the magnitude of the optical anisotropy effects and minimize the energy expenditure.
ST orientation film vapor deposition
IT Vapor deposition processes
(orientation of films during)
IT Films
(vapor deposition of, orientation during)

L13 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1993:518079 CAPLUS
DN 119:118079
TI Preparation of oriented photopolymers using **polarized** light
IN Chigrinov, V. G.; **Kozenkov, V. M.**; Novoseletskii, N. V.; Reshetnyak, V. Yu.; Reznikov, Yu. A.; Schadt, Martin; Schmitt, Klaus
PA Hoffmann-La Roche, F., und Co. A.-G., Switz.; "Niopic" Moscow Research and Production Association
SO Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C08F002-46
ICS C09K019-38; G02F001-35
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 525477	A1	19930203	EP 1992-111770	19920710
	EP 525477	B1	19980916		
	R: CH, DE, FR, GB, IT, LI, NL				
	SG 50596	A1	20010116	SG 1996-6022	19920710
	JP 07138308	A2	19950530	JP 1992-198707	19920724
	US 5389698	A	19950214	US 1993-125006	19930921
PRAI	CH 1991-2244	A	19910726		
	US 1992-910068	B1	19920708		

AB Oriented polymers are prepd. by photochem. polymn. using linear **polarized** light. A film of poly(vinyl cinnamate) (mol. wt. 15,000) on a glass plate was exposed to light from a Hg lamp at room temp. through a **polarizing** filter for 2 h, giving a polymer showing birefringence (.DELTA.n.d = 250 nm in a Kipp compensator).
ST orientation photopolymer **polarized** light; polyvinyl cinnamate orientation **polarized** light; liq crystal orientation **polarized** light
IT Dyes
(orientation of liq. crystals by **polarized** light in presence of)
IT Polymers, properties
RL: PRP (Properties)
(orientation of photosensitive, by **polarized** light)
IT Liquid crystals
(orientation of, by **polarized** light in presence of dyes)
IT Chains, chemical
(orientation of, of photopolymers by **polarized** light)
IT Light
(**polarized**, orientation by, of photopolymers)
IT 24968-99-8, Poly(vinyl cinnamate) 32732-28-8, Poly(vinyl 4-methoxycinnamate)
RL: PRP (Properties)

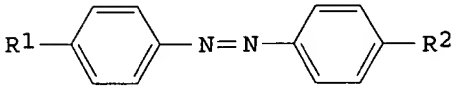
(orientation of, by **polarized** light)

L13 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1989:201725 CAPLUS
DN 110:201725
TI Photoinduced optical anisotropy in Langmuir-Blodgett films
AU Barnik, M. I.; **Kozenkov, V. M.**; Shtykov, N. M.; Pal'to, S. P.; Yudin, S. G.
CS Org. Intermed. Dyes Inst., Moscow, USSR
SO Journal of Molecular Electronics (1989), 5(1), 53-6
CODEN: JMELE4; ISSN: 0748-7991
DT Journal
LA English
CC 73-2 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 66
AB The reversible effect of inducing dichroism and birefringence by **polarized** light was obsd. and investigated in Langmuir-Blodgett films. The kinetics of the induction and relaxation of the birefringence were investigated. An explanation of the effect of photoinduced optical anisotropy in films is given.
ST Langmuir Blodgett film photoinduced optical anisotropy; dichroism Langmuir Lodget film anisotropy; birefringence Langmuir Bodgett film anisotropy
IT Dyes, azo
(photoinduced anisotropy of Langmuir-Blodgett films of)
IT Films
(Langmuir-Blodgett, photoinduced optical anisotropy of)
IT Birefringence
Dichroism
Optical anisotropy
(photoinduced, of Langmuir-Blodgett dye films)
IT 68021-27-2 85342-69-4
RL: PRP (Properties)
(photoinduced anisotropy of Langmuir-Blodgett films of)

L13 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1989:143768 CAPLUS
DN 110:143768
TI Photo-induced optical anisotropy of multimolecular and sputtered films of nonacosadiin-10,12-carboxylic acid
AU Kholmanskii, A. S.; **Kozenkov, V. M.**; Golding, I. R.; Vasneva, N. R.; Rambidi, N. G.
CS Vses. Nauchno-Issled. Tsentr. Izuchen. Svoistv Poverkh. Vakuuma, Moscow, USSR
SO Poverkhnost (1989), (2), 129-32
CODEN: PFKMDJ; ISSN: 0207-3528
DT Journal
LA Russian
CC 73-2 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36, 74
AB Photoinduced optical anisotropy was obsd. in Langmuir and sputtered films of nonacosadiin-10,12-carboxylic acid under the action of **polarized** light (.lambda. = 254 nm), initiating photopolymn. of diacethylene groups in a monolayer.
ST photoinduced optical anisotropy nonacosadiincarboxylic acid; polymn photoinduced nonacosadiincarboxylic acid
IT Polymerization
(photochem., of nonacosadiincarbonic acid)
IT Optical anisotropy
(photoinduced, in nonacosadiincarbonic acid, photoinduced)
IT 66990-35-0, Nonacosadiin-10,12-carbonic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(photoinduced optical anisotropy in photoinduced polymn. of)

L13 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1987:185078 CAPLUS
DN 106:185078
TI Photoinduced optical anisotropy in multilayer Langmuir films

AU **Kozenkov, V. M.**; Yudin, S.[redacted]; Katyshev, E. G.; Palto, S. P[redacted]
Lazareva, V. T.; Barachevskii, V. A.
CS NIOPiK, Moscow, USSR
SO Pis'ma v Zhurnal Tekhnicheskoi Fiziki (1986), 12(20), 1267-72
CODEN: PZTFDD; ISSN: 0320-0116
DT Journal
LA Russian
CC 73-2 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 66
GI



I

AB A strong photoinduced optical anisotropy (.DELTA.n = 0.23) was obsd. in 1000-2000 .ANG. thick multilayer Langmuir-Blodgett films of azo dyes I (R(1) = Me(CH2)17O, Me(CH2)17NH; R(2) = CN, NO2) which were deposited on fused quartz substrates. The optical indicatrix became biaxial upon irradn. with linearly **polarized** light in the region of I absorption (400-520 nm). Relaxation studies showed that the effect is caused by the induced orientational rearrangement of the absorption center.
ST photoinduced optical anisotropy Langmuir film; dye azo photoinduced optical anisotropy
IT Birefringence
(of Langmuir-Blodgett films of azo dyes, photoinduced optical anisotropy in relation to)
IT Order
(of Langmuir-Blodgett films of azo dyes, photoinduced optical anisotropy in relation to rearrangement of)
IT Dichroism
Ultraviolet and visible spectra
(of azo dye Langmuir films)
IT Light, chemical and physical effects
(optical anisotropy induced by, of Langmuir-Blodgett multilayer films of azo dyes)
IT Dyes, azo
(photoinduced optical anisotropy of multilayer Langmuir-Blodgett films of, on quartz substrates)
IT Films
(Langmuir-Blodgett, of azo dyes, photoinduced optical anisotropy of)
IT 68021-27-2 83485-08-9 83608-97-3 85342-69-4
RL: PRP (Properties)
(photoinduced optical anisotropy of multilayer Langmuir-Blodgett films of, on quartz substrates)
IT 60676-86-0
RL: USES (Uses)
(photoinduced optical anisotropy of multilayer Langmuir-Blodgett films on substrates of)

L13 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1985:603663 CAPLUS
DN 103:203663
TI Reversibility of the effect of photoinduced birefringence in poly(vinyl cinnamate) films
AU **Kozenkov, V. M.**; Katyshev, E. G.; Barachevskii, V. A.; Kisilitsa, P. P.; Naumova, N. A.
CS Nauchno-Issled. Inst. Org. Poluprod. Krasitelei, Moscow, USSR
SO Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (1985), 30(4), 281-6
CODEN: ZNPFAG; ISSN: 0044-4561
DT Journal
LA Russian
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other

Reprographic Processes)
AB Cyclic formation and erasure were studied of birefringence in continuously irradiated poly(vinyl cinnamate) layers during periodical switching of the orientation of a **polarization** vector of the activating radiation. The source of the activating linearly **polarized** radiation was He-Cd (.lambda. = 325 nm) or N (.lambda. .simeq. 337 nm) laser. High cyclicity was related with reversible photostructural transformations detd. by an orientational rearrangement of an absorbing center comprising a chromophore and its nearest surroundings.
ST photoinduced reversible birefringence polyvinyl cinnamate; vinyl cinnamate polymer photoinduced refraction; reversibility dual beam photoinduced refraction
IT Recording
(reversibility of photoinduced birefringence in poly(vinyl cinnamate))
IT Holography
(reversibility of photoinduced birefringence in poly(vinyl cinnamate) films in relation to)
IT Recording materials
(optical, poly(vinyl cinnamate) films with reversible photoinduced birefringence for)
IT Birefringence
(photoinduced, reversible, in poly(vinyl cinnamate) films)
IT 24968-99-8
RL: USES (Uses)
(photoinduced birefringence in films of, reversibility of)

L13 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1980:613276 CAPLUS
DN 93:213276
TI Organic light-sensitive materials for **polarization** holography
AU Kvasnikov, E. D.; **Kozenkov, V. M.**; Barachevskii, V. A.
CS USSR
SO Fundament. Osnovy Optich. Pamyati i Sredy, Kiev (1980), (11), 106-11
From: Ref. Zh., Fiz. (A-Zh.) 1980, Abstr. No. 8D1216
DT Journal
LA Russian
CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)
AB Title only translated.
ST **polarization** holog recording photochromic spiropyran; photopolymer recording **polarization** holog
IT Photochromic substances
(contg. spiropyran, for **polarization** holog. recording)
IT Holography
(recording materials for **polarization**, photopolymer and photochromic substances contg. spiropyran for)
IT 24968-99-8D, derivs.
RL: USES (Uses)
(for **polarization** holog. recording)

L13 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1979:532059 CAPLUS
DN 91:132059
TI Study of the photodichroism of photochromic spiropyrans in polymeric films
AU Krasnikov, E. D.; **Kozenkov, V. M.**
CS Nauchno-Issled. Inst. Org. Poluprod. Krasitel., Moscow, USSR
SO Dokl. Akad. Nauk SSSR (1979), 245(5), 1142-6 [Phys. Chem.]
CODEN: DANKAS; ISSN: 0002-3264
DT Journal
LA Russian
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic Processes)
Section cross-reference(s): 73
AB Substituted indolinospiropyrans undergo a reversible, light-induced cleavage of a C-O bond, with consequent decoloration. The effect may be useful in photorecording devices for registering the **polarization** of light and its amplitude and phase. The photodichroism of 16 substituted (by alkyl or aryl groups in positions 1,4,6,5,7 and/or by electroneg. groups in positions 6 and 8) spiropyrans was measured. The compds. were contained in 1 of 7 polymers, including polystyrene and poly(Me methacrylate). Min. photodichroism was obsd. for the compd. for

which the rate const. for [redacted] cleavage reaction in the dark [redacted]s a max. The more viscous the polymer is, the greater the photodichroism is. The change of the photodichroism with exposure depends upon the wave length and **polarization** off the incident light. Differences in the sign of the photodichroism induced by **polarized** UV and visible light imply that the direction of vibration corresponding to electron transitions are not the same for the excitation of the original and photoexcited forms.

ST photodichroism photochromic spiropyran polymer recording; light **polarization** detn photodichroism spiropyran

IT Photochromic substances
(indolespiropyrans, photodichroism of, in polymer films, optical recording in relation to)

IT Light
(**polarization** of, photodichroism of photochromic indolespiropyrans in polymer films in relation to)

IT Recording
(optical, photodichroism of photochromic indolinospiropyrans in polymer films in relation to)

IT Dichroism
(photo-, of photochromic indolinospiropyrans in polymer films, optical recording in relation to)

IT 9003-53-6 9003-63-8 9011-14-7 9015-12-7 26182-65-0 27027-38-9
RL: USES (Uses)
(photodichroism of photochromic indolespiropyrans in films of, optical recording in relation to)

IT 1498-88-0 1498-89-1 6427-75-4 10558-52-8 13034-70-3 14538-13-7
16111-06-1 41532-94-9 42223-92-7 54090-43-6 60420-09-9
60420-10-2 71415-87-7 71415-88-8 71415-89-9 71415-90-2
RL: PRP (Properties)
(photodichroism of, in polymer films, optical recording in relation to)

L13 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 1978:38276 CAPLUS
DN 88:38276
TI Birefringence in films of poly(vinyl cinnamate) induced by **polarized** light
AU Kvasnikov, E. D.; **Kozenkov, V. M.**; Barachevskii, V. A.
CS Nauchno-Issled. Inst. Org. Poluprod. Krasitelei, Moscow, USSR
SO Dokl. Akad. Nauk SSSR (1977), 237(3), 633-6 [Phys. Chem.]
CODEN: DANKAS
DT Journal
LA Russian
CC 35-5 (Synthetic High Polymers)
AB A mechanism is suggested for the occurrence of the birefringence in poly(vinyl cinnamate) (I) [24968-99-8] film which is related to orientation-selective excitation processes in the polymer mols. by the **polarized** light and to the topochem. character of the photocyclization and orientation of the polymer chains which are detd. by the oriented photochem. crosslinking of the polymer fragments. The birefringence had a max. dependence on the irradn. energy and the max. decreased with an increase in the solvent and plasticizer content of I. The birefringence decreased for I film, after termination of the activated **polarized** laser irradn., to a const. value which depended on the compn. and thickness of the film. The effect was characteristic for systems with bimol. photochem. reaction of cyclization of low- and high-mol.-wt. substances which occur topochem.

ST birefringence polyvinyl cinnamate film; vinyl cinnamate polymer birefringence; orientation polyvinyl cinnamate birefringence; laser polyvinyl cinnamate birefringence

IT Ring closure and formation
(in poly(vinyl cinnamate), birefringence in relation to)

IT Birefringence
(of poly(vinyl cinnamate) film, mechanism of laser-induced)

IT Chains, chemical
(orientation of, of poly(vinyl cinnamate) film, birefringence in relation to)

IT 24968-99-8
RL: USES (Uses)

(birefringence of film, chanism of laser-induced)

L13 ANSWER 16 OF 23 INSPEC COPYRIGHT 2002 IEE
AN 2002:7309795 INSPEC DN B2002-08-7260B-011
TI New photo-aligning and photo-patterning technology: superthin internal **polarizers**, retarders, and aligning layers.
AU Chigrinov, V.G.; Kwok, H.; Yip, W.C.; **Kozenkov, V.M.**; Prudnikova, E.; Tang, B.Z.; Salhi, F. (Hong Kong Univ. of Sci. & Technol., China)
SO Proceedings of the SPIE - The International Society for Optical Engineering (2001) vol.4463, p.117-31. 31 refs.
Published by: SPIE-Int. Soc. Opt. Eng
Price: CCCC 0277-786X/01/$15.00
CODEN: PSISDG ISSN: 0277-786X
SICI: 0277-786X(2001)4463L.117:PAPP;1-R
Conference: Liquid Crystals V. San Diego, CA, USA, 29-30 July 2001
Sponsor(s): SPIE
DT Conference Article; Journal
TC Application; Experimental
CY United States
LA English
AB The photo-aligning materials based on azodye layers are proposed. The azodye aligning layers enable (i) high order parameter; (ii) excellent alignment quality of LCD with a high contrast ratio; (iii) temperature stability, suitable for LCD manufacturing; (iv) perfect adhesion and high voltage holding ratio due to the specific molecular groups (v) pretilt angle generation. The azodye layers can be used to fabricate thin internal patterned (pixelated) **polarizers** with different local orientations of the absorption axis and/or absorption colors. Our new methods allow to produce defect-free highly uniform alignment of lyotropic LC or iodine-doped azodye layers themselves with a fine resolution of the **polarization** pattern. The photo-aligned internal **polarizers** are cost-effective and enable new LCDs with excellent electro-optical response, including good viewing angles and high brightness. We prepared an internal phase retarder using UV-cured photo-polymerized material. 4-(6-acryloyloxyhexyloxy) benzoic acid had been synthesized and the synthesis procedure was modified for a better yield. We had shown that by applying an electric or magnetic field, the director deformation of the liquid crystalline monomer could be in-situ UV-cured for the optimal phase compensation generation.
CC B7260B Display materials; B4150D Liquid crystal devices
CT ADHESION; LIQUID CRYSTAL DISPLAYS; LIQUID CRYSTAL POLYMERS; ULTRAVIOLET RADIATION EFFECTS
ST photo-aligning technology; photo-patterning technology; **superthin internal polarizers**; retarders; aligning layers; azodye layers; high order parameter; alignment quality; LCD; high contrast ratio; temperature stability; adhesion; high voltage holding ratio; pretilt angle generation; electrooptical response; viewing angles; high brightness; internal phase retarder; UV-cured photo-polymerized material; 4-(6-acryloyloxyhexyloxy) benzoic acid; optimal phase compensation generation

L13 ANSWER 17 OF 23 INSPEC COPYRIGHT 2002 IEE
AN 2001:7104223 INSPEC DN B2002-01-7260F-013
TI Photo-patterned e-wave **polarizer**.
AU Yip, W.C.; Kwok, H.S.; **Kozenkov, V.M.**; Chigrinov, V.G. (Center for Display Res., Hong Kong Univ. of Sci. & Technol., China)
SO Displays (April 2001) vol.22, no.1, p.27-32. 9 refs.
Doc. No.: S0141-9382(01)00051-8
Published by: Elsevier
Price: CCCC 0141-9382/2001/$20.00
CODEN: DISPDP ISSN: 0141-9382
SICI: 0141-9382(200104)22:1L.27:PPWP;1-H
DT Journal
TC Practical; Experimental
CY United Kingdom
LA English
AB In this paper, we report our development in the photo-patterned e-wave **polarizer**. This **polarizer** is prepared from amphiphilic dye molecules, which self-assemble and stack up to form the hexagonal

complexes of lyotropic liquid crystals (LLC) under certain conditions. As a result, it gives rise to a high order parameter and a cylindrical symmetry. Along the c-axis of these complexes most of the e-wave is transmitted, whereas the o-wave, which propagates on the plane orthogonal to this c-axis, can be absorbed effectively. However, the methods usually used to manufacture the e-wave **polarizer** are based on the mechanical shear flow, which causes unpleasant visual defects and has limited resolution. Therefore, we propose and demonstrate two novel fabrication methods to both photo-align and photo-pattern these e-wave **polarizers**. The first method consists of transferring a well-prepared LLC **polarizing** film onto the substrate using the photo-curing glue. The second method consists of applying a photo-alignment layer to induce a preferential orientation of the LLCs. The c-axis in this case is determined by the **polarization** vector and the incidence plane of the actinic radiation. Since the local structure is patterned optically, the multi-axes and multi-colour **polarizers** can be prepared cost-effectively. In addition, this photo-patterned **polarizing** film, which is about 0.3-0.7 mu m, can be coated on the internal or external substrate surfaces of a liquid crystal display (LCD). For the TN-LCD with the internal **polarizers** , we find that the electro-optic characteristics are basically similar to those with the external **polarizers**. This is central to the internal **polarizer** development since the STN-LCD is sensitive to any voltage and thickness variations.

CC B7260F Display equipment and systems; B4150D Liquid crystal devices; B7260D Display characteristics

CT LIQUID CRYSTAL DISPLAYS; LYOTROPIC LIQUID CRYSTALS; OPTICAL POLARISERS; OPTICAL TRANSFER FUNCTION

ST **photo-patterned e-wave polarizer**; amphiphilic dye molecules; hexagonal complexes; lyotropic liquid crystals; c-axis; mechanical shear flow; photo-align; photo-curing glue; **polarizing film**; external substrate surfaces; internal substrate surfaces; STN-LCD

ET In; N*T; TN; T cp; cp; N cp

L13 ANSWER 18 OF 23 INSPEC COPYRIGHT 2002 IEE

AN 1998:6017731 INSPEC DN A9820-4270-004; B9810-4150D-046

TI Physics and applications of LC photo-alignment: recent results.

AU Chigrinov, V.G. (Shubnikov's Inst. of Crystallogr., Moscow, Russia); **Kozenkov, V.M.**

SO Proceedings of the SPIE - The International Society for Optical Engineering (1998) vol.3318, p.454-64. 29 refs.
Published by: SPIE-Int. Soc. Opt. Eng
Price: CCCC 0277-786X/98/$10.00
CODEN: PSISDG ISSN: 0277-786X
SICI: 0277-786X(1998)3318L.454:PAPA;1-X
Conference: Liquid Crystals: Physics, Technology and Applications. Zakopane, Poland, 3-8 March 1997
Sponsor(s): SPIE; State Committee for Sci. Res

DT Conference Article; Journal

TC General Review

CY United States

LA English

AB The photo-aligning of LC layers by UV-illumination seems to provide a new advanced technology for all types of LCDs, especially AMLCDs. Recently certain new results were obtained, which based on the extensions of the photo-aligning materials to the common classes of polymer aligning agents, such as polyimides, polysiloxanes etc. Pretilt angles on the substrates were definitely obtained, which enable to fabricate STN and AM-LCDs with large surface areas. The progress in application of LC photo-aligning for LCDs stimulates a fundamental research in the field. We will consider UV-illumination in photoanisotropic films, such as a photo-orientation of the absorption oscillator of the molecular clusters perpendicular to the **polarization** vector of the UV-light and characterize this process by the specific material constants. This characterization will further enable us to define such important parameter as an anchoring energy of LC with the photoactivated substrate. We will also discuss such problems as a stability of photoaligned LC layers with respect to an external UV and IR light exposure, and will show that a certain progress in this direction was obtained. Finally we plan to review some LCD display constructions,

that can be efficiently ob[redacted]ned by the method of UV-illumi[redacted]ion technique.
CC A4270F Other optical materials; A6130 Liquid crystals; A8250 Photochemistry and radiation chemistry; A8230Q Isomerization and rearrangement; B4150D Liquid crystal devices; B4110 Optical materials; B7260 Display technology and systems
CT ISOMERISATION; LIQUID CRYSTAL DISPLAYS; LIQUID CRYSTAL POLYMERS; MOLECULAR ORIENTATION; OPTICAL POLYMERS; PHOTOCHEMISTRY
ST liquid crystal photo-alignment; UV-illumination; advanced LCD technology; AMLCD; photoanisotropic films; photo-orientation; absorption oscillator; molecular clusters; **polarization vector**; anchoring energy; layer stability; surface properties; hybrid linear photopolymer; cis-isomerisation; dyes in polymer matrix; LB films; photochemical reaction

L13 ANSWER 19 OF 23 INSPEC COPYRIGHT 2002 IEE
AN 1996:5370812 INSPEC DN A9620-4265P-003; B9610-4150D-043
TI Bistable switching in FLC cells aligned by photoanisotropic films.
AU Vorflusev, V.; **Kozenkov, V.**; Chigrinov, V. (Org. Intermediates & Dyes Inst., Moscow, Russia)
SO Molecular Crystals and Liquid Crystals (1995) vol.263, p.2509-15. 11 refs.
Published by: Gordon & Breach
CODEN: MCLCE9 ISSN: 1058-725X
SICI: 1058-725X(1995)263L.2509:BSCA;1-1
Conference: 15th International Liquid Crystal Conference. Budapest, Hungary, 3-8 July 1994
DT Conference Article; Journal
TC Practical; Experimental
CY Switzerland
LA English
AB Long-term perfect bistable switching of 1.5 mu m thick Ferroelectric Liquid Crystal (FLC) cell oriented by photoanisotropic (PA) films was demonstrated even in case of a large spontaneous **polarization** Ps=100 nC/cm2. The condition of a good SmC* orientation quality was shown to be the existence of a nematic phase N*. The bistability properties of PA-films aligned FLC cell, kept for a while in a short-circuiting state, are easily restored, which is not observed in FLC cells oriented by usual rubbing technique.
CC A4265P Optical bistability, multistability and switching; A6130 Liquid crystals; A7780 Ferroelectricity and antiferroelectricity; B4150D Liquid crystal devices; B4340 Nonlinear optics and devices
CT FERROELECTRIC LIQUID CRYSTALS; FERROELECTRIC SWITCHING; OPTICAL BISTABILITY; SMECTIC LIQUID CRYSTALS
ST bistable switching; FLC cells; photoanisotropic films; **large spontaneous polarization**; SmC* orientation quality; nematic phase N*; short-circuiting state; rubbing technique
ET C*Sm; SmC; Sm cp; cp; C cp; N

L13 ANSWER 20 OF 23 INSPEC COPYRIGHT 2002 IEE
AN 1995:5034081 INSPEC DN A9519-4270G-001; B9510-4110-041
TI Photoanisotropic films: physics and application in LCDs.
AU Crigrinov, V.G.; **Kozenkov, V.M. (Org. Intermediates & Dyes Inst., Moscow, Russia)**
SO Proceedings of the SPIE - The International Society for Optical Engineering (1995) vol.2407, p.185-96. 15 refs.
Price: CCCC 0 8194 1754 8/95/$6.00
CODEN: PSISDG ISSN: 0277-786X
Conference: Projection Displays. San Jose, CA, USA, 8-10 Feb 1995
Sponsor(s): SPIE; Soc. Imaging Sci. & Technol
DT Conference Article; Journal
TC Application; Practical
CY United States
LA English
AB Pure dye layers, dyes embedded into polymer matrix and pure photopolymer films (e.g. PVC-polyvinyl 4-methoxy-cinnamate) form the so called photoanisotropic films (PAFs), which undergo molecular and structural transformations under the action of the external **polarized** UV-illumination. The spectral sensitivity, spatial resolution, thermostability and reversibility of such processes strongly depend on the

chemical nature of PAFs. Various applications of PAFs in LC technology are envisaged such as: (i) the alignment of LC molecules without rubbing operation thus avoiding electrostatic charges and impurities; (ii) possibility to make delicate structure of the preferred azimuth of LC director on the substrate to improve LCD viewing angles; (iii) forming of phase retardation plates with local orientations of optical axes and optical path length varying from pixel to pixel; (iv) implementation of B/W and color supertwist (STN) high information content displays based on birefringent colors; (v) modification of the configuration of subtractive color supertwist cells for projection displays. The paper presents a brief introduction of physical phenomena in PAFS and its application in LCDs.
CC A4270G Light-sensitive materials; A7820F Birefringence (condensed matter); B4110 Optical materials; B7260 Display technology and systems; B4150D Liquid crystal devices
CT BIREFRINGENCE; FILLED POLYMERS; LIGHT POLARISATION; LIQUID CRYSTAL DISPLAYS; OPTICAL POLYMERS; ORGANIC COMPOUNDS; POLYMER FILMS
ST photoanisotropic films; LCD; pure dye layers; polymer matrix films; photopolymer films; PVC-polyvinyl 4-methoxy-cinnamate; molecular transformations; structural transformations; **external polarized UV-illumination**; spectral sensitivity; spatial resolution; thermostability; reversibility; liquid crystal molecule alignment; LCD viewing angles; phase retardation plates; supertwist high-information-content displays; birefringent colors

L13 ANSWER 21 OF 23 INSPEC COPYRIGHT 2002 IEE
AN 1989:3393529 INSPEC DN A89077726
TI Photoinduced optical anisotropy in Langmuir-Blodgett films.
AU Barnik, M.I.; **Kozenkov, V.M.**; Shtykov, N.M.; Palto, S.P.; Yudin, S.G. (Org. Intermediates & Dyes Inst., Moscow, USSR)
SO Journal of Molecular Electronics (Jan.-March 1989) vol.5, no.1, p.53-6. 10 refs.
Price: CCCC 0748-7991/89/010053-04$05.00
CODEN: JMELE4 ISSN: 0748-7991
Conference: International Conference on Electronics of Organic Materials (ELORMA). Tashkent, USSR, 16-21 Nov 1987
DT Conference Article; Journal
TC Experimental
CY United Kingdom
LA English
AB For the first time, the reversible effect of inducing dichroism and birefringence by **polarized** light was observed and investigated in Langmuir-Blodgett films. The kinetics of the induction and relaxation of the birefringence were investigated. An explanation of the effect of photoinduced optical anisotropy in films is given.
CC A7865 Optical properties of thin films; A7820F Birefringence
CT BIREFRINGENCE; DICHROISM; LANGMUIR-BLODGETT FILMS
ST Langmuir-Blodgett films; dichroism; birefringence; kinetics; induction; relaxation; photoinduced optical anisotropy

L13 ANSWER 22 OF 23 INSPEC COPYRIGHT 2002 IEE
AN 1985:2426831 INSPEC DN A85042761; B85024337
TI Anisotropic diffraction-grating structures for integrated optical systems.
AU Bykovskii, Yu.A.; Barachevskii, V.A.; Borodakii, Yu.V.; **Kozenkov, V.M.**; Maimistov, A.I.; Smirnov, V.L.; Shulev, Yu.V. (Eng.-Phys. Inst., Moscow, USSR)
SO Soviet Journal of Quantum Electronics (June 1984) vol.14, no.6, p.846-7. 7 refs.
Price: CCCC 0049-1748/84/060846-02$04.10
CODEN: SJQEAF ISSN: 0049-1748
Translation of: Kvantovaya Elektronika, Moskva (June 1984) vol.11, no.6, p.1255-7. 7 refs.
CODEN: KVEKA3 ISSN: 0368-7147
DT Journal; Translation Abstracted
TC Practical; Experimental
CY USSR; United States
LA English
AB An experimental investigation was made of anisotropic phase diffraction gratings in thin-film waveguides. The results indicated that highly selective **polarization** filters and converters could be based on

such gratings. Methods for the control of the parameters of anisotropic grating structures were also investigated.
CC A4280C Spectral and other filters; A4280F Gratings, echelles; A4280L Optical waveguides and couplers; A4282 Integrated optics; B4130 Optical waveguides; B4140 Integrated optics; B4190F Optical coatings and filters
CT DIFFRACTION GRATINGS; INTEGRATED OPTICS; OPTICAL FILTERS; OPTICAL WAVEGUIDES
ST integrated optical systems; anisotropic phase diffraction gratings; thin-film waveguides; **highly selective polarization filters**; converters

L13 ANSWER 23 OF 23 INSPEC COPYRIGHT 2002 IEE
AN 1981:1651000 INSPEC DN A81029372
TI Multifunction light-**polarization** converter.
AU **Kozenkov, V.M.**; Kvasnikov, E.D.; Barachevskii, V.A.; Rakitina, L.A.; Naumova, N.A.
SO Soviet Technical Physics Letters (Jan. 1980) vol.6, no.1, p.47-8. 2 refs.
CODEN: STPLD2 ISSN: 0360-120X
Translation of: Pis'ma v Zhurnal Tekhnicheskoi Fizika (Jan. 1980) vol.6, no.1-2, p.105-8. 2 refs.
CODEN: PZTFDD ISSN: 0320-0108
DT Journal; Translation Abstracted
TC Practical; Experimental
CY USSR; United States
LA English
AB The fabrication of a multifunction **polarizer** whose basic element is a birefringent layer in the form of a mosaic is reported. The birefringent layer is a single film of polyvinyl cinnamate in which there is a mosaic of anisotropic elements. The film exhibits photostimulated birefringence when illuminated with polarised activating light.
CC A0760F Polarimetry and ellipsometry; A4270G Light-sensitive materials; A4280 Optical devices, techniques and applications
CT BIREFRINGENCE; LIGHT POLARISATION; OPTICAL ELEMENTS; POLYMER FILMS
ST birefringent layer; mosaic; polyvinyl cinnamate; anisotropic elements; **multifunction light polarization converter**